

**Amendments to the Claims:**

This listing of claims replaces all prior versions and listings of claims in this application.

**Listing of Claims:**

1-18. (CANCELED)

19. (NEW) An apparatus for removing biofilm and debris from waterline comprising:  
a source of gas under pressure;  
a source of aqueous cleaning solution including one or more surfactants;  
a mixing chamber for mixing said gas under pressure and said aqueous cleaning solution  
at a ratio so as to form a turbulent two phase flow of gas and liquid having a velocity sufficient to  
loosen the biofilm and debris from said waterline and flush them away; and  
a line for delivering said turbulent two phase flow of gas and liquid to the waterline.
20. (NEW) An apparatus according to claim 19, further comprising a line for delivering said  
gas under pressure to said mixing chamber.
21. (NEW) An apparatus according to claim 19, further comprising a line for delivering said  
aqueous cleaning solution to said mixing chamber.
22. (NEW) An apparatus according to claim 19, wherein the Reynolds number of the two  
phase mixture is above 9700.
23. (NEW) An apparatus according to claim 19, wherein the Reynolds number of the two  
phase mixture is from about 9700 to about 15,000.
24. (NEW) An apparatus according to claim 19, wherein the volumetric gas to liquid ratio is  
at least 50:1.
25. (NEW) An apparatus according to claim 19, wherein said gas under pressure is pulsed.

26. (NEW) An apparatus according to claim 19, wherein said surfactants include cationic surfactants.
27. (NEW) An apparatus according to claim 19, wherein said surfactants include anionic surfactants.
28. (NEW) An apparatus according to claim 19, wherein said surfactants nonionic surfactants.
29. (NEW) An apparatus according to claim 19, wherein said cleaning solution includes an oxidizing agent.
30. (NEW) An apparatus according to claim 29, wherein said oxidizing agent is hydrogen peroxide.
31. (NEW) An apparatus according to claim 29, wherein said cleaning solution further includes a biocide.
32. (NEW) An apparatus according to claim 19, wherein said cleaning solution includes solid particles.
33. (NEW) An apparatus according to claim 32, wherein said solid particles are water insoluble.
34. (NEW) An apparatus according to claim 32, wherein said solid particles are water soluble.
35. (NEW) An apparatus according to claim 19, wherein said gas is supplied from a compressor set at a pressure of 30 to 60 psi.

36. (NEW) An apparatus according to claim 19, further including a source of water that can be added to said gas to flush the tubing walls.